NOTES.

WE much regret to record the death on April 2, at sixty-three years of age, of Sir James MacKenzie Davidson, the distinguished ophthalmic surgeon and radiologist. Sir James Davidson received his early education in Buenos Aires. He came to England as a youth, and entered for medicine at Aberdeen University. He also studied at Edinburgh and London. After graduation at Aberdeen in 1882 he became first assistant to the professor of surgery there, and later lecturer on ophthalmology. He was also ophthalmic surgeon to the Royal Infirmary, Aberdeen, and the Royal Sick Children's Hospital, and physician to the Blind Asylum. The experience gained as an ophthalmic surgeon in Aberdeen exercised a great influence on his work when he came to London. In 1896 Röntgen's discovery of X-rays was announced, and with characteristic energy and commendable foresight Sir James Davidson at once grasped the significance of this discovery in relation to medicine. The same year found him making a pilgrimage to Würzburg to interview Röntgen. After removing to London in 1897 he became radiologist to Charing Cross Hospital and to the Royal London Ophthalmic Hospital. At a later date he became consulting radiologist to both these institutions. Henceforth Sir James Davidson's whole energy became absorbed in research work, and he quickly took a leading position amongst the pioneer workers in X-rays and radium. His early training in ophthalmology led him to grasp the value of X-rays in this branch of medicine, and particularly in the localisation of foreign bodies in the orbit and eyeball; the method elaborated by him, and always associated with his name, became recognised as the standard one, and upon it all the modern methods are based. He also advocated the practice of stereoscopic radiography. He received a knighthood in 1912, and at the time of his death held the positions of past-president of the Röntgen Society and honorary consulting radiologist to the London District Command. The development of radiodiagnosis and radiotherapy are intimately bound up with the name of MacKenzie Davidson, and he was recognised in America and on the Continent as the leading radiologist in this country. By his death radiology has lost a distinguished exponent of technique, an original worker of the highest order, and an enthusiastic advocate of its future in medicine and science.

WE regret to learn that Dr. William Allen Sturge died on March 27 in his sixty-ninth year. Dr. Sturge was born in Bristol, and graduated as M.D. in the University of London, but spent the greater part of his professional life at Nice, where he was a highly esteemed medical practitioner. While on the Riviera he devoted much of his leisure to collecting and studying ancient Greek vases and other objects of Greek art, and eventually extended his interests to prehistoric archæology. He collected flint implements from the French caves and other Continental localities, and on his return to England in 1907 he chose his residence at Icklingham, Suffolk, where he could explore one of the richest districts for flint implements in this country. He also acquired specimens from the collections of William Greenwell, Worthington Smith, Allen Brown, and others. Dr. Sturge contributed several papers to the Proceedings of the Prehistoric Society of East Anglia, of which he was one of the founders and first president in 1908. He also did much to advance our knowledge of the Stone age by his stimulating help to fellow-workers. Dr. Sturge's great collection of stone implements is bequeathed to the British Museum.

WE learn from the *Biochemische Zeitschrift* that Prof. R. Kobert died at Rostock on December 27, 1918, at sixty-four years of age. Prof. Kobert had taught pharmacology, physiological chemistry, and the history of medicine and pharmacy in the university of that town since 1899. After having studied medicine at Halle he became assistant to Schmiedeberg at Strasburg in 1882. The latter's pharmacological institute, founded a little earlier, was at that time the only laboratory of its kind in Germany, the others being at Dorpat and Vienna. In 1886 Kobert succeeded Buchheim as professor of pharmacology at Dorpat, where Dragendorff then was professor of pharmacy, but the Russification of the university in 1897 terminated the work of its German teachers, including Kobert. The deceased was a prolific author of compilations on pharmacology, toxicology, etc., and of papers on ergot, the saponins, the vegetable hæmolysins, and other subjects.

SIR AUCKLAND GEDDES, Minister of National Service and Reconstruction, has resigned his office, and will return to McGill University, Montreal, where he will succeed Sir William Peterson as principal. He was professor of anatomy at the University when the war broke out, and stipulated, on accepting the chair, that in the event of hostilities he should be at liberty to resign without notice. His connection with the University was not, however, broken; for the governors did not accept his resignation, and he has been on leave from his chair throughout the war. When he became Minister of National Service it was on the understanding that he should be free at the end of the war to devote his life to politics or return to university work. The Prime Minister has testified that Sir Auckland Geddes's work during the war "has been of inestimable value to the country"; and, as principal of McGill University, his services to scientific education and advancement are likely to have an equally strong influence upon the destinies of the Dominion and the Empire.

DR. E. J. RUSSELL has been elected a foreign member of the Royal Swedish Academy of Agriculture, Stockholm.

MR. R. A. GREGORY has been elected a member of the Athenæum Club under the provisions of the rule of the club which empowers the annual election by the committee of "a certain number of persons of distinguished eminence in science, literature, or the arts, or for public services."

THE death occurred on April 2, at eighty-seven years of age, of Dr. Edward Liveing, emeritus registrar of the Royal College of Physicians of London, and the author of a volume on "Megrim: A Contribution to the Pathology of Nerve Storms."

ACCORDING to the *Münchener medizinische Wochenschrift*, the Griesheim-Elektron Chemical Works now manufacture an almost pure calcium hypochlorite under the name "hyporit." This contains 80 per cent. of available chlorine (as compared with 36 per cent. in the best bleaching powder), and is a stable white powder dissolving readily in water to a very faintly alkaline solution, which can be used instead of Dakin's solution for the irrigation of wounds and for other purposes. The impurities are a small quantity of calcium chloride and very little lime. This is the first stable solid hypochlorite manufactured on a large scale.

A RED CROSS Conference is now being held at Cannes. On April 5 the delegates, presided over by Dr. Herman Biggs, Public Health Commissioner, New York State, discussed the desirability of setting up immediately a Central Health Bureau with the view of linking up the various national Red Cross societies in a health crusade throughout the world. The proposal was very favourably received, and was supported, among others, by Sir Robert Philip (Edinburgh), Profs. Baduel (Florence), Roux (Paris), Kenwood (London), Sir Ronald Ross, Col. Cumming (U.S. Public Health Service), and Prof. Kabishima. Such subjects as standardisation of nursing methods and the training of nurses, training of public health *personnel,* combating tuberculosis, as well as the promotion of research, were considered by the various speakers to come within the limits of such a crusade.

We are glad to note that vigorous protests have been raised in the *Times* against the suggestion, emanating from Toronto, that aeroplanes should be used for the purpose of driving caribou by the thousand into corrals, where they might conveniently be slaughtered. The carcasses thus obtained were to be used for increasing the meat supply of Canada and for export. If such a scheme were ever sanctioned the caribou would speedily share the fate of the American bison. The further suggestion that airmen might destroy wolves and feral dogs by machine-gun fire does not sound very practicable, but these deadly weapons could, and probably would, be used against the caribou. It is devoutly to be hoped that no more will be heard of this proposal, which has given offence to all true sportsmen, as well as to those who are concerned with the conservation of wild animals.

In this first Easter vacation after the cessation of hostilities the Port Erin Biological Station is almost as fully occupied as in pre-war days. About fifty researchers and senior students are working there some time during the latter part of March and April, including four professors and half a dozen demonstrators, with groups of students from London, Manchester, Liverpool, Cambridge, and Reading. Prof. Benjamin Moore, with three other biochemists, is engaged on a research on photosynthesis in relation to the alkalinity of the sea. Most of the others are on faunistic or morphological work. Fortunately, the weather has been favourable for work at sea, and for shore-collecting during the low spring tides. In the plankton the vernal phytoplankton maximum has appeared. Coscinodiscus has been in abundance during the latter part of March, and now Chætoceras is in evidence. The Manx summer herring have made their appearance close inshore unusually early; a few hundred may be caught any night in Port Erin Bay, but a more notable catch of half a dozen mease was secured a few miles along the coast on one of the first nights in April.

"The Function of Science in the Modern State" and "National Life from the Standpoint of Science" are the subjects of two papers contributed some years ago by Prof. Karl Pearson to the Eugenic Lecture Series (Cambridge University Press). Prof. Pearson has done well to republish these papers in view of the altered circumstances of the nation since the war and the necessity for recognising as soon as possible a better theory of the State than was previously available, especially for the employment of scientific method in the organisation of every department of business, of administration, of education, and of progress in invention and discovery. The executive must be freed from the dominance of minds trained solely on literature and jurisprudence, for in the future the struggle for existence will not necessarily be settled in favour of the biggest or the richest or the best-armed nation. Everything will be determined by organisation of the brain-power which the nation possesses, and by teaching the leaders, as well as the people at large, to prepare for the difficulties of new environment. Prof. Pearson discusses these problems in an interesting way from the point of view of eugenics and the principle of evolution. Hence he lays great emphasis on the importance of preventing so far as possible deterioration as the result of deficient reproduction among the intellectual classes and encouragement of the inferior stocks. In these two pamphlets there is much food for thought for every man and woman, and they should be read by everybody.

A considerable change is made in the Daily Weather Report of the Meteorological Office from April 1. During the war the weather information expanded, and was more complete than in pre-war times; the information, however, was not supplied to the public, but it was widely distributed to the Services and eagerly used. Since the freeing of weather information, subsequent to the armistice, some idea could be formed by the public of the increased activity of the Weather Office. The change now effected is, in a measure, very drastic. Instead of the Daily Weather Report containing home and foreign stations, with maps for each hour at which observations were made, there are now three separate reports: the British Section, the International Section, and the Upper Air Supplement. The British Section and the Upper Air Supplement are issued in lithographic form in the forenoon of the day's observations, and the International Section is issued early on the following day. The British Section gives detailed observations from observatories of the Meteorological Office and stations of the Air Ministry for 1h., 7h., 13h., and 18h., and other Meteorological Office stations for 7h. and 18h., previously included in the Daily Weather Report. It also gives a full-page weather-map, including Iceland, the Azores, and a large part of western Europe, also forecasts for the twenty-four hours commencing at 3 p.m. for twenty districts covering the British Isles. The Upper Air Supplement gives maps of the British Isles with winds at the surface and at elevations of 1000, 2000, 5000, 8000, 10,000, and 15,000 ft. for afternoon, evening, and morning. The International Section practically covers western Europe and the Mediterranean with observations for evening and morning, and there are two full-page weather-maps. Provision is made for wireless reports from the Atlantic.

A memorandum on the share of "colonies" (institutions for training and for employment) in the treatment of tuberculosis by Mr. J. E. Chapman has been issued by the Local Government Board (Reports on Public Health and Medical Subjects, No. 122). Colony treatment is intended to secure for selected patients beneficial results of a more lasting nature than can be obtained by sanatorium treatment alone. In the earlier colonies the work provided was mainly of an agricultural character, but as few patients continue this occupation after discharge, more recently established colonies aim to fit the patient for an occupation that will be continued. The whole subject is adequately considered in this memorandum, which is illustrated with figures of two types of cottage homes suitable for a colony.

"The Lessons of the War and Some New Prospects in the Field of Therapeutic Immunisation" was the subject of an important lecture by Sir Almroth Wright delivered before the Royal Society of Medicine on February 25 (see *Lancet,* March 29, p. 489). The natural defences of the body against, and in the presence of, infections were fully dealt with, and a number of ingenious experiments detailed in confirmation of the views expressed. The anti-tryptic power of "wholesome" blood and the leucocytes are the great defensive mechanisms, and the treatment of septic wounds should aim at bringing these into action. A method of "immuno-transfusion" for the treatment of septic wounds was also described, in which blood from a donor is, after withdrawal, first allowed to act upon and digest a given quantum of the infecting micro-organism, after which the treated blood is injected into the patient.

A report by King Edward's Hospital Fund for London on "Pensions for Hospital Officers" has been issued. The inquiry was held by a sub-committee consisting of Mr. W. J. H. Whittall, Mr. H. L. Hopkinson, and Sir William Collins. The final recommendation of the first two members is that pensions should be provided by means of insurance policies paid for by joint contributions of employers and employees, much on the lines of the Federated Superannuation scheme for University colleges. Sir W. Collins dissents on the ground that a scheme based on recourse to insurance companies is not the only possible solution of the problem, and that alternative schemes should be considered at a conference of hospital representatives which it is proposed to summon to discuss the whole question.

Ornithologists who are interested in migration will read with interest in *British Birds* for March some observations by Mr. D. G. Garnett on birds seen in the north-eastern Atlantic and the English and St. George's Channels from August to October, 1917. It has been definitely established that there is a route followed by migrating birds which extends down the western Irish coast, across the approaches of St. George's Channel and the English Channel, to the north-west of France. It is now suggested by Mr. Garnett that, as a consequence of his observations, there seems evidence to show that there is yet another route traversing this, and extending from the south coast of Ireland to the west coast of Spain.

The food habits of the mallard ducks of the United States forms the subject of a very valuable Bulletin (No. 720) issued by the United States Department of Agriculture. The author, Mr. W. L. McAtee, set himself the task of discovering the food preferences of these birds for the purpose of obtaining information which could be put to good purpose in establishing wild-duck farms and increasing the stock of wild birds on account of their great value as food. Though mainly vegetarian, Mr. McAtee points out the extreme value of these birds as exterminators of mosquito larvæ. Experiments on enclosed water with captive birds showed that in this regard they are far more effective than goldfish, which were used in a control experiment. Hence, he remarks, these birds are of incalculable value in keeping down mosquitoes in swamps that would be extremely costly to drain.

An interesting summary of suggestions as to the best means of rapidly increasing the produce of food-crops in India by methods within the power of the Agricultural Department has been issued (Bulletin No. 84) by the Agricultural Research Institute, Pusa. The bulletin consists of a collection of notes submitted by representatives of the Department in various parts of the country, and, although there is naturally considerable variety in the specific proposals for the individual areas, it is interesting to note a general agreement that the most effective means of securing a rapid increase in the output of food-crops lies in the dissemination of improved strains of seed. For Bengal alone it is estimated that the substitution of the pure line *Indrasail* developed by the agricultural station at Dacca for the local varieties of transplanted rice commonly used would lead to an increase of 500,000 tons of rice. Similar improvement of the rice crop is also being effected in the Central Provinces, Madras, and Burma. In the Punjab special attention has been directed to wheat, and two varieties which have been found to give from half a maund to three maunds per acre more than local varieties are now being extensively developed. Similar improvements in wheat output are also being effected in the Central Provinces. In many of the reports emphasis is placed upon the improvement which might be effected by better methods of cultivation alone, and by more active participation of the large landowners in the cultivation of their land. More abundant and efficient irrigation is also emphasised as a special need of certain areas. There would appear to be little prospect of increase, however, by the use of manures or by the substitution of food-crops for fibre or other non-food producing crops.

We have received a copy of a booklet entitled "Decimal Coinage and British Commerce," by Mr. J. Gall Inglis. The author advocates a decimal system of coinage alternative to that proposed in the Bill which was introduced in the House of Lords last year. His scheme involves the decimalisation of the shilling and half-sovereign, instead of the sovereign, while retaining the latter as a coin, but not as a unit. The shilling would remain as at present, but the new penny would be one-tenth of a shilling, and divided into ten "mils." Mr. Inglis points out that for business purposes it is necessary to take into account the relative amount of clerical work involved in our present system and in the proposed decimal schemes, and he has constructed a table showing that the amount of figure-writing with the decimal half-sovereign would be less than is now necessary, and considerably less than with the decimal sovereign. He urges the importance of preserving the shilling as the indispensable pricing unit. A short account is also given of a scheme for decimalising our weights and measures on a metric basis. The booklet, which is published by Messrs. Gall and Inglis, Henrietta Street, Strand (price 1*d.*), is noteworthy for its original and practical outlook, and will appeal to those interested in the question of decimalisation.

In 1917, for the first time, the annual meeting of the Indian Association for the Cultivation of Science was divided into a business meeting held in September and a science convention held in November. According to the report of the association for 1917, recently received, the division proved an unqualified success. Nine physical, four chemical, and seven biological papers were read at the convention by the staff and students of the association, and they constitute, with the report, a volume of more than 150 pages. The association is doing much to encourage research in India, and the conditions of appointment of their professor of physics will serve as a good example to many institutions in this country. He is required (1) to devote himself to original research in his subject, (2) to stimulate and guide research by advanced students, (3) to superintend the formation and maintenance of the physics laboratory, and (4) he is under no obligation to share in the teaching of the M.A or M.Sc. classes of the university. This professorship is held by Prof. Raman, while Sir P. C. Rây holds the corresponding one in chemistry.

The February issue of the Journal of the Chemical Society contains an interesting paper by Mr. R. Wright on "The Effect of some Simple Electrolytes on the Temperature of Maximum Density of Water." The author confirms Despretz's law that the lowering of the temperature of the point of maximum density of water caused by the addition of a solute is directly proportional to the concentration of the latter. Mr. Wright further shows that the lowering of the temperature of the maximum density of water produced by a highly ionised binary electrolyte is composed of two separate independent effects, one due to the acid and the other to the basic radicle, and can therefore be calculated by the addition of two moduli to the lowering produced by a molecular solution of a chosen standard substance. The standard substance chosen was normal hydrochloric acid. The acid salts of the dibasic acids behave normally, but the neutral salts and the salts of bivalent metals do not conform to any simple rule in their effect on the temperature of maximum density. The feebly ionised organic acids show abnormal effects, but their highly ionised salts behave in the normal manner.

Considerable interest is attached to the comparatively rare alkaloid hyoscine or scopolamine, owing to its use in the treatment popularly known as "twilight sleep." The hyoscine of commerce, extracted from solanaceous plants, is lævorotatory, but an optically inactive form produced by the action of dilute alkali on the naturally occurring alkaloid is known. At a meeting of the Chemical Society on April 3 Mr. Harold King, of the Wellcome Chemical Research Laboratories, described the resolution of this optically inactive hyoscine into the well-known lævo- form and the hitherto unknown dextro- form. On hydrolysis *l*-hyoscine yields *l*-tropic acid and an optically inactive amino-alcohol, oscine. Mr. King has also resolved the latter into its optically active components. Since, therefore, tropic acid and oscine each contain an asymmetric carbon atom, and are each capable of existing in three forms, two active and one inactive, the possible combinations of these various forms may give rise to ten, or possibly eleven, isomeric hyoscines. It becomes of interest to ascertain which of these forms are represented by the two optically active hyoscines already known. This question is still under investigation, but Mr. King pointed out that as benzoyl *d*-oscine gives optically pure *d*-oscine on hydrolysis, it seems probable that the known hyoscines contain inactive oscine, the optical activity being due to the lævo- and dextro-tropyl radicles respectively.

On taking over the duties of the chair of metallurgy in the Royal Technical College, Glasgow, last September, Prof. Cecil Desch devoted his introductory lecture to a review of the aims of a Glasgow School of Metallurgy. In this address Prof. Desch laid emphasis upon a change in the methods of industry which has recently been taking place. He quoted from Prof. Patrick Geddes, who has proposed to divide the industrial age into two periods, which he has called the "palæotechnic" and the "neotechnic." In the earlier of these the aim of industry was merely the accumulation of material wealth. Natural resources were squandered recklessly, the one consideration being their rapid conversion into marketable products. Human life was disregarded, the cheapest labour being utilised without reference to the standard of life. In England this was essentially the age of coal. Fuel was cheap and abundant; no care was exercised in its use, and our scenery was disfigured by smoke as the manufacturing districts spread over the country. Housing conditions were such as to accommodate the largest number of persons on a given area at the lowest possible cost, and the results are to be seen in the squalid industrial regions of Manchester, Sheffield, the Black Country of the Midlands, and Glasgow. It is, however, being slowly realised, both by the employers of industry and the workers themselves, that all natural resources must be used with the utmost economy, unnecessary destruction avoided, health and comfort considered in the devising and planning of works, and the erection of squalid dwellings crowded into a minimum of space must give place to town-planning on a scientific and sound basis. The symbol of the palæotechnic age was the furnace fired with raw coal; that of the neotechnic age is the electrical power-house with its clean atmosphere and white-tiled walls. Prof. Desch is to be commended on having laid such emphasis on a matter of vital importance to the future of the country.

Copies have reached us of Nos. 2 and 3 of the *Children's Newspaper*, a weekly periodical edited by Mr. Arthur Mee, and published by the Amalgamated Press, Ltd. Mr. Mee was editor of the "Children's Encyclopædia" and "Harmsworth's Popular Science," both of which are among the best works of their class. The new periodical shows the same interest in scientific matters and originality in presenting them to juvenile readers. Its aim is to give "the story of the world to-day for the men and women of to-morrow," and we are glad to see that the world includes Nature as well as man. We should like to think that when the boys and girls who now derive pleasure and profit from the newspaper published especially for them become adults they will expect like fare to be provided in the public Press. The *Children's Newspaper* will be a valuable aid in this direction, and we cordially welcome it.

Messrs. A. and C. Black, Ltd., will publish shortly a book on "Cerebro-spinal Fever," by Drs. C. Worster-Drought and A. M. Kennedy. The authors were responsible for the treatment of the disease among the troops in the Woolwich military district. The following works have been arranged for appearance in the University of Chicago Science Series (*Chicago: The University of Chicago Press; London: The Cambridge University Press*):—"Black Body Radiation," Prof. C. E. Mendenhall; "Mechanics of Delayed Germination in Seeds," W. Crocker; "The Rigidity of the Earth and of Materials," Prof. A. A. Michelson; and "Linear Integral Equations in General Analysis," E. H. Moore. The new list of *Messrs. Longmans and Co.* includes "The Design of Propellers for Aircraft," H. C. Watts; "The Design of Aero Engines," Major A. T. Evans and Capt. Adams; "Engineering Machine Tools and Processes," A. G. Robson; "The Principles and Practice of Electrical Testing," R. G. Allen; and "Garden First in Land Development," W. Webb. *Mr. H. Milford* announces "The Place of the University in National Life," the Right Hon. H. A. L. Fisher (No. 4 of "Barnet House Papers").

The latest catalogue (No. 387) of Mr. F. Edwards, 83 High Street, Marylebone, W.1, appears at an opportune moment, seeing that it deals with books relating to Europe. It is historical and descriptive, and conveniently arranged according to the various countries of the Continent. Doubtless it will be of interest to many readers of Nature at the present time. Copies are obtainable upon application.

OUR ASTRONOMICAL COLUMN.

The April Meteoric Display.—The shower of Lyrid meteors in April dates from antiquity, and some of the early displays appear to have been of an exceptional and striking character. In 1803 a brilliant exhibition was witnessed in America, and in 1851 it was repeated in Indian skies. In 1863 its visitation as viewed from England was conspicuous, if it lacked the grandeur of old-time spectacles. It is evidently not a phenomenon with attractive features which we can await with confidence every year as in the case